



EPA Region 5 Records Ctr.



317175

September 10, 2008

Dr. Leah Evison  
U. S. EPA - Region 5 (SR-6J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

**Re: Sauget Area 2 Site – October 3, 2002 Unilateral Administrative Order  
(UAO) Groundwater Operable Unit  
Monthly Report; August 1 - August 31, 2008 Reporting Period**

Dear Dr. Evison:

Attached is the Monthly Report for the Sauget Area 2 Site October 3, 2002 Unilateral Administrative Order (UAO) - Groundwater Operable Unit. This submittal is in fulfillment of the monthly reporting requirements of the UAO, Section XII, paragraph 62, Progress Reports. This report is for the period August 1 – August 31, 2008.

Sincerely,

A handwritten signature in black ink, appearing to read "S.D. Smith", with a stylized flourish at the end.

Steven D. Smith  
Project Coordinator

cc: Ken Bardo, - U. S. EPA  
Mayor Sauget - Sauget, IL  
Sandra Bron – IEPA  
Mike Coffey - USFWS  
Village of Sauget – c/o P. H. Weis & Associates (Attn: Brian Nelson)  
Mayor Frank Bergman – Cahokia  
L. Glen Kurowski - Monsanto  
Cathleen Bumb – Solutia  
Linda Tape - Husch Blackwell Sanders, LLP  
Richard Williams – Solutia

## **Sauget Area 2 Site - Sauget, Illinois**

### **October 3, 2002 UAO – Groundwater Operable Unit**

#### **Status Report**

**Date of Report:** September 10, 2008  
**Period Covered:** August 1 - August 31, 2008

#### **Work Performed During the Reporting Period**

##### **Site Work**

- No site work occurred during the reporting period.

##### **Groundwater Treatment**

- As agreed upon with USEPA, the Groundwater Migration Control System (GMCS) continues to be operated to maintain the total pumping rate equal to the computed inflow rate, based on the average of the gradients measured in the two existing pairs of piezometers located immediately upgradient of the Site R landfill. The system was operated in the above manner during the reporting period.
- During the week of July 7<sup>th</sup>, it was observed that extraction well EW-2 would only produce a maximum flow of about 80 gpm. On July 14<sup>th</sup>, it was noted that the actuator would not open and a fuse was replaced. The well shut down again on July 23<sup>rd</sup> and would not restart. The motor on the actuator was checked on July 29 and was found to be faulty. A new motor was ordered and was installed on August 5<sup>th</sup>. However, during the startup and calibration, an internal fuse blew repeatedly and the actuator was removed and taken to the maintenance shop for repair. It was reinstalled on August 14<sup>th</sup> and the well was put back into service.
- During the night of August 13<sup>th</sup> /14<sup>th</sup>, the actual flow was only about 70 percent of the computed flow. Review of the control logic showed that the problem was caused by the set points defined in the control program, with the result that the controller was trying to bring well EW-2 on line, even though the well was down for maintenance. The program logic was change to use different set points
- The signal from piezometer PZ-4OUT became erratic on August 14<sup>th</sup> and began to affect the signals from other sensors. The signal wiring was disconnected and

the other signals stabilized. The circuit will be put back into service as soon as the problem is identified and repaired.

- All of the piezometers were checked on August 29<sup>th</sup> by comparing manual water level readings with the sensor readings.

Comments on various documents submitted to the Agency were received on February 12<sup>th</sup>. A meeting was held on April 29<sup>th</sup> to discuss these comments and the following documents were prepared for submission to the Agency:

- An Annual Report covering the period between February 2006 and December 2007. This report was submitted on June 16<sup>th</sup> as scheduled.
- A Remedial Action Report which was submitted on May 28<sup>th</sup>.
- A Work Plan for computing the mass flux to the river sediments and surface water following construction of the Interim Remedy was submitted on March 17, 2008. The Work Plan was discussed at the April 29<sup>th</sup> meeting and the Agency requested that the proposed methodology be revised to compute the chemical flux entering the river, as opposed to the groundwater flux.
- Alternatives to the method currently used to compute the pumping rate (Darcy's Law) were also discussed at the April 29<sup>th</sup> meeting. A refinement to the currently used algorithm was proposed in a Technical Memorandum that was appended to the Annual Report submitted on June 16<sup>th</sup>.
- The second quarter 2008 groundwater samples collected from the performance monitoring wells were being analyzed during the reporting period. Collection of surface water and sediment samples in the Mississippi River scheduled to occur in March was again postponed because of the high river stage. Collection of these samples will be rescheduled when the river stage declines sufficiently to ensure that groundwater is discharging to the river.
- Water level and pumping data for the reporting period are attached.

### **Schedule**

The documents listed above will be used to establish that the Remedial Action at Site R is complete.

### **Submittals During Reporting Period**

There were no documents submitted during the reporting period.

### **Work Scheduled for Next Reporting Period**

- Continue operating the extraction system to maintain the total pumping rate equal to the computed inflow rate.

- Monitor the Mississippi River stage in order to determine an appropriate time for collection of the first 2008 semi-annual surface water and sediment samples and collect the samples when groundwater begins to discharge to the river.
- Validate the analytical data from the second quarter 2008 groundwater samples from the performance monitoring wells and collect the third quarter 2008 samples.

## **PUMPING DATA**

## GROUNDWATER MIGRATION CONTROL SYSTEM

### AUGUST 2008 DAILY AVERAGE FLOW RATES AND GROUNDWATER LEVELS

Date/Time		PUMPING RATE					SWL
		Computed Q	Total Q	EW-1 Q	EW-2 Q	EW-3 Q	
08/01/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	410.14
08/02/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	410.24
08/03/2008	Daily Average	0.00	0.30	0.30	0.00	0.00	409.28
08/04/2008	Daily Average	1.48	7.19	3.60	0.00	3.60	407.00
08/05/2008	Daily Average	88.62	79.51	47.01	0.00	32.50	402.87
08/06/2008	Daily Average	407.41	398.89	199.43	0.00	199.47	398.68
08/07/2008	Daily Average	579.19	576.65	288.30	0.00	288.35	396.52
08/08/2008	Daily Average	701.58	701.41	349.90	1.60	349.92	394.86
08/09/2008	Daily Average	773.44	770.90	385.44	0.00	385.46	393.73
08/10/2008	Daily Average	835.54	835.95	417.98	0.00	417.96	392.88
08/11/2008	Daily Average	908.80	909.96	454.97	0.00	454.99	391.58
08/12/2008	Daily Average	1024.15	1021.12	510.56	0.00	510.55	390.18
08/13/2008	Daily Average	1182.70	1150.13	575.06	0.00	575.06	388.01
08/14/2008	Daily Average	1366.97	1149.26	565.27	18.68	565.31	386.98
08/15/2008	Daily Average	1277.15	1279.57	639.79	0.00	639.78	388.13
08/16/2008	Daily Average	1209.64	1208.48	604.24	0.00	604.25	388.37
08/17/2008	Daily Average	1241.38	1240.59	620.27	0.00	620.32	387.85
08/18/2008	Daily Average	1252.62	1251.41	625.69	0.00	625.72	387.32
08/19/2008	Daily Average	1290.35	1290.65	645.31	0.00	645.34	386.84
08/20/2008	Daily Average	1316.35	1318.28	659.13	0.00	659.15	386.20
08/21/2008	Daily Average	1322.36	1323.96	662.00	0.00	661.96	386.01
08/22/2008	Daily Average	1277.83	1273.94	637.04	0.00	636.90	386.03
08/23/2008	Daily Average	1308.82	1308.69	654.34	0.00	654.35	385.35
08/24/2008	Daily Average	1365.90	1362.82	681.39	0.00	681.43	384.65
08/25/2008	Daily Average	1445.88	1454.13	574.15	305.40	574.59	383.45
08/26/2008	Daily Average	1447.02	1441.97	591.65	259.26	591.05	383.49
08/27/2008	Daily Average	1467.17	1461.62	551.98	357.96	551.69	382.95
08/28/2008	Daily Average	1473.15	1466.55	541.13	384.22	541.20	382.52
08/29/2008	Daily Average	1424.47	1444.12	543.36	357.40	543.36	382.67
08/30/2008	Daily Average	1292.15	1292.31	646.17	0.00	646.14	383.74
08/31/2008	Daily Average	1315.61	1318.15	659.10	0.00	659.04	383.10

## GROUNDWATER MIGRATION CONTROL SYSTEM

### AUGUST 2008 DAILY AVERAGE FLOW RATES AND GROUNDWATER LEVELS

		GROUNDWATER LEVELS											
Date/Time		PZ-5U	PZ-5D	Delta	PZ-6U	PZ-6D	Delta	PZ-7U	PZ-7D	Delta	PZ-8U	PZ-8D	Delta
08/01/2008	Daily Average	404.85	405.15	0.30	404.60	404.59	-0.01	404.42	404.67	0.25	405.10	406.08	0.97
08/02/2008	Daily Average	404.90	405.26	0.36	404.70	404.71	0.01	404.53	404.79	0.26	405.21	406.20	0.99
08/03/2008	Daily Average	404.82	405.11	0.29	404.69	404.71	0.02	404.51	404.77	0.27	405.15	405.97	0.82
08/04/2008	Daily Average	404.56	404.66	0.11	404.48	404.52	0.04	404.34	404.57	0.23	404.89	405.35	0.46
08/05/2008	Daily Average	403.87	403.77	-0.10	403.94	403.98	0.04	403.80	404.00	0.19	404.19	404.17	-0.03
08/06/2008	Daily Average	402.79	402.42	-0.37	402.90	402.85	-0.04	402.76	402.83	0.07	403.02	402.55	-0.47
08/07/2008	Daily Average	401.84	401.34	-0.51	401.96	401.82	-0.13	401.81	401.82	0.01	402.03	401.35	-0.68
08/08/2008	Daily Average	401.05	400.43	-0.62	401.16	400.97	-0.19	401.01	400.98	-0.03	401.20	400.38	-0.82
08/09/2008	Daily Average	400.48	399.79	-0.68	400.59	400.35	-0.24	400.42	400.37	-0.06	400.61	399.70	-0.91
08/10/2008	Daily Average	399.92	399.18	-0.74	400.04	399.77	-0.27	399.88	399.79	-0.08	400.03	399.05	-0.98
08/11/2008	Daily Average	399.38	398.59	-0.79	399.51	399.20	-0.31	399.34	399.25	-0.10	399.48	398.41	-1.07
08/12/2008	Daily Average	398.91	398.02	-0.89	399.05	398.72	-0.33	398.89	398.76	-0.14	399.00	397.79	-1.21
08/13/2008	Daily Average	398.24	397.22	-1.01	398.41	398.05	-0.37	398.28	398.09	-0.18	398.34	396.93	-1.41
08/14/2008	Daily Average	397.58	396.45	-1.13	397.84	397.46	-0.38	397.71	397.51	-0.20	397.73	396.08	-1.65
08/15/2008	Daily Average	397.01	395.90	-1.11	397.19	396.75	-0.44	397.09	396.85	-0.24	397.13	395.63	-1.50
08/16/2008	Daily Average	396.76	395.70	-1.06	396.94	396.48	-0.46	396.80	396.60	-0.20	396.87	395.45	-1.42
08/17/2008	Daily Average	396.48	395.41	-1.07	396.65	396.21	-0.44	396.53	396.31	-0.21	396.55	395.08	-1.47
08/18/2008	Daily Average	396.19	395.08	-1.12	396.34	395.91	-0.43	396.21	396.00	-0.21	396.23	394.77	-1.46
08/19/2008	Daily Average	395.83	394.70	-1.14	395.99	395.53	-0.46	395.85	395.64	-0.21	395.87	394.35	-1.51
08/20/2008	Daily Average	395.51	394.35	-1.16	395.69	395.23	-0.46	395.54	395.33	-0.21	395.55	394.00	-1.54
08/21/2008	Daily Average	395.24	394.08	-1.16	395.40	394.94	-0.47	395.24	395.04	-0.20	395.26	393.70	-1.55
08/22/2008	Daily Average	395.00	393.87	-1.13	395.15	394.68	-0.47	394.98	394.80	-0.18	395.01	393.51	-1.50
08/23/2008	Daily Average	394.73	393.56	-1.17	394.89	394.43	-0.47	394.72	394.52	-0.20	394.71	393.19	-1.53
08/24/2008	Daily Average	394.46	393.24	-1.22	394.63	394.15	-0.48	394.44	394.23	-0.21	394.42	392.83	-1.59
08/25/2008	Daily Average	394.07	392.83	-1.24	394.25	393.72	-0.53	394.11	393.85	-0.25	394.08	392.36	-1.72
08/26/2008	Daily Average	393.84	392.57	-1.27	393.97	393.43	-0.55	393.79	393.56	-0.24	393.78	392.08	-1.70
08/27/2008	Daily Average	393.58	392.28	-1.30	393.68	393.13	-0.55	393.51	393.26	-0.25	393.49	391.78	-1.71
08/28/2008	Daily Average	393.30	392.02	-1.29	393.43	392.87	-0.56	393.24	393.00	-0.25	393.23	391.49	-1.74
08/29/2008	Daily Average	393.02	391.77	-1.25	393.15	392.59	-0.57	392.96	392.70	-0.26	392.95	391.25	-1.70
08/30/2008	Daily Average	392.96	391.78	-1.18	393.08	392.55	-0.53	392.84	392.64	-0.20	392.82	391.33	-1.49
08/31/2008	Daily Average	392.78	391.57	-1.20	392.90	392.39	-0.51	392.65	392.47	-0.18	392.61	391.10	-1.51

## GROUNDWATER MIGRATION CONTROL SYSTEM

### AUGUST 2008 DAILY AVERAGE FLOW RATES AND GROUNDWATER LEVELS

Date/Time		GROUNDWATER LEVELS							
		PZ-1_OUTSI	PZ-2_OUTSI	PZ-3_OUTSI	PZ-4_OUTSI				
		DE	1_INSIDE DE	2_INSIDE DE	3_INSIDE DE	4_INSIDE DE			
08/01/2008	Daily Average	407.14	404.59	408.48	404.99	408.28	404.21	407.69	405.07
08/02/2008	Daily Average	407.27	404.75	408.57	405.09	408.39	404.40	407.82	405.21
08/03/2008	Daily Average	406.72	404.71	407.70	405.06	407.53	404.33	407.31	405.14
08/04/2008	Daily Average	405.34	404.44	405.57	404.80	405.49	404.06	405.91	404.79
08/05/2008	Daily Average	403.16	403.66	402.34	404.04	402.44	403.32	402.72	403.56
08/06/2008	Daily Average	400.65	401.86	398.89	402.42	399.00	401.59	399.35	400.72
08/07/2008	Daily Average	399.03	400.39	396.81	401.12	396.96	400.23	397.95	399.26
08/08/2008	Daily Average	397.72	399.36	395.13	400.02	395.27	399.13	396.75	397.81
08/09/2008	Daily Average	396.88	398.81	394.13	399.30	394.30	398.36	394.70	396.71
08/10/2008	Daily Average	396.05	398.17	393.14	398.62	393.30	397.66	394.24	396.15
08/11/2008	Daily Average	395.23	397.48	392.09	397.92	392.27	396.94	393.25	395.31
08/12/2008	Daily Average	394.30	396.78	390.84	397.27	391.01	396.28	394.02	393.57
08/13/2008	Daily Average	392.99	395.75	389.06	396.38	389.27	395.33	390.36	391.94
08/14/2008	Daily Average	391.71	395.10	387.38	395.74	387.63	394.67	389.44	391.75
08/15/2008	Daily Average	391.52	394.00	387.46	394.88	387.68	393.76		389.30
08/16/2008	Daily Average	391.55	393.99	387.71	394.74	387.90	393.66		389.82
08/17/2008	Daily Average	391.19	393.68	387.24	394.41	387.43	393.35		389.40
08/18/2008	Daily Average	390.77	393.31	386.80	394.06	386.98	392.98		388.63
08/19/2008	Daily Average	390.34	392.83	386.29	393.60	386.49	392.52		388.04
08/20/2008	Daily Average	389.88	392.46	385.68	393.25	385.90	392.19		387.30
08/21/2008	Daily Average	389.64	392.13	385.48	392.97	385.69	391.85		387.13
08/22/2008	Daily Average	389.50	392.02	385.49	392.81	385.68	391.68		387.02
08/23/2008	Daily Average	389.07	391.67	384.88	392.48	385.11	391.34		386.26
08/24/2008	Daily Average	388.57	391.26	384.26	392.11	384.47	390.98		386.08
08/25/2008	Daily Average	387.79	391.10	383.21	391.46	383.43	390.17		386.74
08/26/2008	Daily Average	387.69	390.76	383.23	391.19	383.42	389.86		385.83
08/27/2008	Daily Average	387.28	390.56	382.72	390.82	382.94	389.47		385.62
08/28/2008	Daily Average	386.96	390.36	382.23	390.56	382.55	389.19		384.87
08/29/2008	Daily Average	386.89	389.52	382.43	390.25	382.62	388.85		384.75
08/30/2008	Daily Average	387.43	388.47	383.49	390.59	383.66	389.44		384.15
08/31/2008	Daily Average	387.01	388.29	382.94	390.44	383.10	389.27		383.86